NOVA SCOTIA

Environment and Labour

Reference Guide To The

GENERAL BLASTING REGULATION

Produced by the

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The commentary found in this document is not intended to be an exhaustive interpretation or to constitute legal advice to members of the public. This document is prepared for convenience only, and for accurate reference, the reader should see the official volumes of the legislation.

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Short title

1 These regulations may be cited as the "General Blasting Regulations".

Application

2 (1) These regulations apply to every employer, constructor, employee, self-employed person and supplier involved in blasting activity at a workplace other than underground at a mine.

(2) For greater certainty, these regulations apply to blasting activity at the surface of a mine.

Interpretation

3 In these regulations

(a) "Act" means the Occupational Health and Safety Act;

(b) "blaster" means a person named on a valid blaster's certificate issued by the Director upon the recommendation of the Board of Examiners;

(c) "blasting activity" includes the storage, handling, transportation, preparation, and use of explosives, and drilling conducted at a blasting area or in relation to the use of explosives;

(d) "blasting area" means the zone extending at least 50 metres (164 ft.) in all directions from the place in which explosives are prepared, handled or loaded for firing, or in which misfired explosives exist or are believed to exist, and from which hazards must be excluded to avoid an accidental explosion;

(e) "blasting machine" means an electrical or electro-mechanical device which provides electrical energy for the purpose of energizing electric detonators but does not include batteries by themselves;

(f) "blasting meter" means a test instrument such as a blasting galvanometer, blasting ohmmeter, blasting voltmeter or blasting multimeter used to check detonators and electrical circuits for continuity, resistance, stray currents and other pertinent measurements;

(g) "blasting operation" means all operations involving explosives or blasting accessories conducted from the time explosives arrive in an area to be blasted until all explosives are gone from the area;

(h) "blasting switch" means a device used to permit the firing of electric blasting circuits from power lines and constructed so that the door may only be closed and locked with the switch in the "OFF" position;

(i) "danger area" means the zone in which there exists a possibility of hazard to persons or property from fly rock, fumes, airblast or ground vibrations;

(j) "day box" means a portable unit used for the keeping of explosives during the day and meeting the requirements of the latest edition of "Magazine Standards for Blasting Explosives and Detonators" as published by the Explosives Division of Energy, Mines and Resources Canada;

(k) "detonator" includes electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating cord delay connectors and nonelectric instantaneous and delay blasting caps which use detonating cord, shock tube, gas tube or any other replacement for electric leg wires, and any similar device;

(l) "explosive" means a substance, including a detonator or primed explosive, that is manufactured or used to produce an explosion by detonation or deflagration and that is regulated by the Explosives Act (Canada), but does not include ammunition for weapons or fireworks;

(m) "extraneous electricity" means unwanted electrical energy greater than 50 milliamps that is present at the blasting area and that could enter an electric blasting circuit including stray current, static electricity, radio frequency energy, and time-varying electric and magnetic fields;

(n) "magazine" means a fixed unit used for the unattended storage of explosives

overnight and which meets the requirements of the latest edition of "Magazine Standards for Blasting Explosives and Detonators" as published by the Explosives Division of Energy, Mines and Resources Canada;

(o) "misfired hole" means a charge of explosives in a hole or part thereof which for any reason has failed to fire as planned, and "misfire" has a corresponding meaning;

(p) "prime a charge" means to position a detonator for use in firing an explosive charge;

(q) "primed explosive" means an explosive containing a detonator.

General duties

4 Every person engaged in blasting activity including every employer, constructor, employee, self-employed person and supplier shall comply with the Act and these regulations.

Role of certified blaster

5 **(1)** All blasting operations shall be performed under the direct supervision of a blaster who is present at the project and who holds a blaster's certificate which authorizes the performance of the particular type of work that the blaster is to conduct or supervise.

(2) A supervisor shall consult with a blaster so that both are aware of all work being conducted in a blasting area and no work shall be conducted in a manner which creates a risk of an accidental explosion.

(3) Where more than one blaster is involved in a blasting operation, the employer shall

(a) prior to the commencement of the blasting operation, designate one blaster who shall have principal responsibility for the blast;

(b) ensure that all persons in the blasting area are made aware of the identity of the principle blaster; and

(c) ensure that all blasters and supervisors performing or directing work in a blasting area consult sufficiently to coordinate the safety of the activity.

(4) No person shall participate in a blasting activity until the information, instruction, training, supervision, and facilities required by Section 13(1)(c) and (d) of the Act have been provided to that person.

(5) No person other than a blaster shall

(a) prime a charge;

(b) make any connection which leads or which will lead from the explosive charge to a blasting machine, a blasting switch, safety fuse or a shock tube initiating system such as NONEL;

(c) connect any delay or sequencing device or program the delay or sequence for the

blast; or

(d) fire an explosive charge.

(6) An explosive charge shall not be fired until the blaster or principal blaster, if there is one, has ensured that the placement of the charge and all other features of the blasting activity are adequate to ensure the safety of all persons at or near the workplace.

(7) A blaster shall ensure that all blasting operations conducted under the authority of the blaster's certificate are conducted in a manner which complies with the Act and these regulations.

Federal standards

6 The Explosives Act (Canada) as amended from time to time and any regulation made thereunder or any standard related thereto published or adopted by Energy, Mines and Resources Canada are adopted as regulations pursuant to the Act.

Security and report requirements

7 **(1)** Only persons authorized by the employer shall have access to explosives.

(2) Any theft or attempted theft of explosives shall be reported by the employer to the Director or an officer appointed under the authority of the Act as soon as reasonably practicable.

(3) Pursuant to Section 63 of the Act, the employer shall send written notice to the Director

(a) of a fire or accident at the workplace that occasions bodily injury to an employee as soon as reasonably practicable;

(b) of an accidental explosion at the workplace, whether any person is injured or not, within twenty-four hours of its occurrence; and

(c) where at the workplace a person is killed from any cause or is injured from any cause in a manner likely to prove fatal, within twenty-four hours of the occurrence of the death or injury.

(4) The employer shall notify the Director

(a) where there is a misfire or any presence of fire, heat or gas which creates an unusual hazard to an explosive, sufficiently promptly and fully so as to enable consultation in respect of proposed curative measures;

(b) where there is an accidental firing of an explosive or a blasting accident, even if no person is injured as a result of the occurrence, verbally or in writing within twenty-four hours of the occurrence;

and, upon the request of an officer, shall complete an incident report form including the information required in Form 1 of Appendix A to these regulations.

8 **(1)** A blaster who performs or is responsible for a blast shall maintain a log book or equivalent record recording the information described in Form 2 of Appendix A to these regulations.

(2) For the purpose of offering evidence of his specific experience in blasting operations when seeking to obtain a blaster's certificate, a blaster may maintain a log book or equivalent record of the work he performs at a blast.

(3) An employer shall ensure that a blaster keeps an up to date record in accordance with subsection (1).

(4) A blaster shall keep his record for three years after the blast, and shall have the record available for inspection by an officer and an employer.

(5) The employer shall ensure that the employee in charge of explosive magazines maintains an inventory record available to an officer recording for each magazine the amount of detonators (by period, leg wire length, and series) and other explosives (by type) stored in the magazine for at least the three previous years, and the inventory record shall be kept at a place other than in the magazine.

(6) A blaster shall

(a) retain his blaster's certificate and keep it in a safe place at the workplace while carrying out his duties; and

(b) upon the request of an officer, produce his blaster's certificate.

Note that for more positive identification, all blaster certificates have a current photo of the blaster. June 10, 1998

Storage and handling

9 **(1)** A day box or magazine used for the unattended storage of an explosive shall comply with the latest edition of "Magazine Standards for Blasting Explosives and Detonators" as published by the Explosives Division of Energy Mines and Resources Canada, and shall be licensed in accordance with any applicable legislation.

(2) The ground within at least 10 metres (32.8 feet) of a magazine or day box shall be kept clear of long grass, brush and other readily combustible or flammable materials.

(3) Where an unattended magazine or unattended day box contains a detonator, it shall not be placed within 50 metres (164 feet) of a magazine or day box containing another explosive unless a lesser distance is authorized by an officer.

(4) Detonators shall not be placed in

(a) the same magazine or day box with other types of explosives; or

(b) the same compartment of a vehicle as another explosive unless they are separated by use of a day box and unless all applicable legislation respecting the transportation of explosives is complied with.

(5) Explosives shall be attended at all times by a person authorized by the employer unless they are placed in a locked day box or locked magazine.

(6) Notwithstanding subsection (5), where an explosive is to be stored overnight, it shall be stored in a locked magazine.

(7) No smoking or open flame and no article liable to spontaneously ignite or likely to cause an explosion or fire is permitted within 10 metres (32.8 feet) of an explosive, magazine, day box or blasting area.

(8) Tools and implements used to open containers of explosives shall be made of non-sparking material.

(9) No person shall prime a charge in an area where explosives are stored.

(10) No person shall carry an explosive in clothing.

(11) When handling and transporting explosives, all applicable provisions of the Explosives Act (Canada) and the Dangerous Goods Transportation Act, and of the regulations pursuant to those Acts, shall be observed, to the extent that these Acts apply to the activity being performed.

Drilling

10 **(1)** When equipment, including a drilling rig, is located in a blasting area, sufficient precautions, including ensuring adequate traction and stability, shall be taken to prevent toppling, sliding or other unplanned movement of the equipment.

(2) Drill holes shall be of sufficient size to admit the free insertion to the bottom of the hole of explosives without ramming, pounding or undue pressure.

(3) No drilling shall be done in a previously blasted area until the surface to be drilled is carefully examined for remnants of explosives or holes containing explosive materials.

(4) Where a remnant of a hole containing explosives is found, this explosive shall be dealt with as a misfire before drilling commences.

(5) No drilling shall be done closer to any part of a hole containing an explosive than a distance equal to half the total depth of the hole being drilled and in no instance closer than 6 metres (19.7 feet) from any part of a hole containing an explosive.

(6) Notwithstanding subsection (5), where

(a) a blaster determines that a particular misfire cannot be more safely treated by other means and it is necessary to drill an adjacent hole in a manner inconsistent with subsection (5);

(b) the nature of the ground being drilled makes it necessary to load a hole immediately after it is drilled and to subsequently drill an adjacent hole in a manner inconsistent with subsection (5);

(c) a loaded hole caves in and a blaster determines that the unexploded hole cannot be reprimed or otherwise more safely treated, and it is necessary to drill an adjacent hole in a manner

inconsistent with subsection (5); or

(d) it is necessary to use a drill to remove obstacles from a previously drilled hole which does not contain explosives, and to do so would be inconsistent with subsection (5);

a Code of Practice which has been developed in consultation with a blaster and which is approved by the Director for use in such a circumstance may be followed if the employer has notified the Director in writing that the approved Code of Practice is being utilized at that project site and for what reason.

(7) Where, pursuant to subsection (6), a Code of Practice becomes applicable to the drilling of a hole, the details of the Code of Practice and the reasons for its implementation shall be communicated to all persons remaining in the blasting area, and all persons shall adhere strictly to the terms of the applicable Code of Practice.

(8) Where an officer determines that

(a) notice of the use of a Code of Practice under subsection (6) has been given but a hole is being drilled in a manner inconsistent with subsection (5) in the absence of circumstances authorizing resort to the Code of Practice; or

(b) where a Code of Practice is in effect pursuant to subsection (6), the Code of Practice has not been strictly adhered to,

the officer may make an order suspending the application of the Code of Practice, and the suspension shall remain in place for that project and, at the officer's discretion, for any other project conducted by that employer or blaster, until the Director notifies the employer or blaster that the suspension has been lifted.

Handling in special circumstances

11 **(1)** Frozen explosives shall be used only in accordance with the manufacturer's recommendation.

(2) Waste, deteriorated, damaged or time expired explosives shall be destroyed promptly by

(a) a blaster;
(b) a representative of the manufacturer of the explosive; or
(c) a qualified member of the Royal Canadian Mounted Police, the Department of National Defence, the Explosives Division of Energy, Mines and Resources Canada, or a local police force, using methods approved by the manufacturer.

Preparing the blast loading

12 **(1)** Detonators shall be kept and handled separately from other types of explosives until the last practicable moment when the blaster primes the charge.

(2) Holes shall not be loaded with an explosive sooner than is practicably necessary prior to firing.

(3) Wrapping shall not be removed from nitroglycerine based products.

(4) Non-nitroglycerine based products shall remain in their original wrapping until the last practicable moment before use.

(5) Electric detonators shall be kept shunted or short circuited until they are used, except during any testing of the detonator.

(6) The employer shall ensure that tamping rods and other such devices are made of wood or other non-sparking material.

(7) Primed explosives shall not be slit or tamped.

(8) No undue pressure or pounding shall occur during tamping.

(9) Where pneumatic loading of ammonium nitrate and fuel oil (ANFO) occurs, only semiconductive hose shall be used and the loader shall be effectively grounded and the bottom priming of drill holes shall be done with non-electrical initiation.

(10) The blaster shall personally test the continuity of every loaded hole containing an electric detonator before the hole is stemmed, and a blasting meter shall be used to perform this test.

(11) Necessary stemming shall be done with suitable material.

(12) Explosive charges shall not be connected to each other or a means of initiation until the last practicable moment just prior to firing.

(13) Only federally authorized safety fuse assemblies shall be used, and fuse capping shall not be carried out.

(14) Safety fuse assemblies shorter than 1 metre (3.28 feet) shall not be used.

(15) Where it is necessary to fire more than one safety fuse assembly at one time, only one igniter cord or approved equivalent shall be lit.

(16) The blaster lighting the safety fuse or igniter cord or other material shall be accompanied by another employee.

(17) The location of loaded holes shall be visually identified by either placing individual markers at each hole, or by marking off the perimeter of the area containing loaded holes by a display of warning tape or other highly visible indicator of the location of the loaded holes.

(18) Sufficient security procedures shall be used when loaded holes are present so as to prevent access by persons who have not been authorized by the blaster.

(19) Where loaded holes are present, notwithstanding subsection (1) of Section 5, the blaster may, in his absence,

(a) provide for the security measures required pursuant to subsection (18); and
(b) authorize activity other than blasting operations in that blasting area.

(20) No vehicle or other equipment or electrical cable shall be driven or moved over holes containing an explosive or over any explosive or blasting accessory, except where the Director concludes that circumstances make it safer to position vehicles straddling a hole than to attempt to drive between holes in a situation where one procedure or the other is necessary, provided that the Director has approved a Code of Practice for use on that project and that it is

strictly adhered to and has not been suspended by the Director or an officer.

(21) No smoking or open flame is permitted in a blasting area.

(22) The blaster shall ensure that unused explosives or detonators are returned to the day box or magazine before the blast is initiated.

Pre-firing and firing requirements

13 **(1)** Where there is a danger from extraneous electricity, a blasting operation shall be fully non-electric.

(2) Blasting operations or the handling of explosives shall not be carried out on the approach of, or during an electrical storm and all persons shall remain outside the danger area.

(3) Unless it is fully non-electric, a blasting operation shall not be carried out at a lesser distance from a transmitter than the minimum distance shown to be applicable in the tables set out in Appendix "B" to these regulations.

(4) The employer shall ensure that when a blasting operation is about to commence and while it is in progress,

(a) if it is an electric blasting operation, signs bearing the words "Blasting Operations, Turn Off Radio Transmitter" are posted on all public roads leading to a blasting area so as to be visible to persons entering the area;

(b) if it is a fully non-electric blasting operation, signs bearing the words "Blasting Operation" are posted on all public roads leading to a blasting area so as to be visible to persons entering the area; and

(c) signs bearing the words "End of Blasting" are posted on all public roads leading from a blasting area so as to be visible to persons leaving the area.

(5) Signs required by subsection (4) shall have letters not less than 15 centimetres (6 inches) high on a contrasting background and shall be 90 centimetres (35 inches) wide and 120 centimetres (47 inches) tall, and, if required to be visible to persons entering a blasting area, shall be located at a distance before the blasting area of

(a) 100 metres (328 feet) if the speed limit on the road is 50 km/hour or less; or

(b) 300 metres (984 feet) if the speed limit on the road is over 50 km/hour.

(6) The employer shall ensure that the signs required pursuant to subsection (4) are removed or covered when the blasting operation is completed.

(7) Before the connection of lead wires to the blasting machine or blasting switch, which shall be the last connection made, all electric blasting circuits shall be tested personally by a blaster with a blasting meter in order to ensure that readings are consistent with the values calculated for the blast.

(8) Only blasting machines or blasting switches shall be used to fire electric circuits.

(9) The blaster shall ensure that the capacity of a blasting machine as designated by the manufacturer is not exceeded.

(10) The employer shall ensure that a blasting machine is maintained in good working order and is inspected at least once every twelve months by a service representative authorized to work on the machine by its manufacturer or approved by the Director, and records verifying the condition of the blasting machine at the time of the annual inspection shall be kept by the employer until the next annual inspection.

(11) The employer shall ensure that precautions are taken for the protection of all persons and property at or near the workplace to minimize the hazard of flying material, airblast, ground vibration or fumes from the blast, and that blasting mats of adequate size and strength, adequate cover or the removal of persons and property are used where there is any danger to the safety of persons or property.

(12) A blasting machine shall not be used to fire an explosive charge unless it is designated

and approved by the manufacturer for the sole purpose of energizing electric detonators.

(13) A blasting meter shall not be used to take measurements pertinent to blasting unless it is approved and designated by the manufacturer for that sole purpose.

(14) Electric blasting circuits shall not be fired from power transmission lines except where a blasting operation is conducted in underground tunnelling and a blasting switch is used.

(15) A blasting switch shall not be used for the firing of electric blasting circuits from power lines unless it is approved and designed by the manufacturer as suitable for that purpose and constructed so that the door may only be closed and locked with the switches in the "OFF" position.

(16) The blaster shall ensure that the blasting switch is kept locked and made inaccessible until such time as it is required to fire the explosive charge.

(17) When an electrical power transmission line is present, if electric blasting initiation is to be used, cables used to fire the blast shall be anchored securely so as to avoid their being thrown in to contact with the power line.

(18) The employer shall ensure that empty explosive cartons and boxes are

(a) collected from the site before blasting; and
(b) disposed of by burning after the blast is completed.

(19) Before firing, the blaster shall ensure that

(a) sufficient audible and visual warning is given to all persons in or near the danger area;

(b) all roads and approaches to the danger area are guarded or

barricaded in order to prevent anyone from entering;

(c) all machinery and equipment are clear of the effects of the blast; and

(d) all persons in the vicinity have moved to a safe distance.

(20) The blaster shall determine the size of the danger area and ensure that, before the final connection to lead wires is made or the charge is initiated, all persons have moved to a suitable shelter or to a safe distance.

(21) At fixed blasting operations, including surface mines and quarries, the employer shall ensure that the warning procedure and blasting signal code are conspicuously posted.

Post firing

14 (1) Immediately after firing electrically, the blaster shall disconnect and shunt or short circuit the lead wires from the blasting machine or the blasting switch, and pull out and lock a blasting switch.

(2) After firing the blast the blaster shall make a thorough inspection of the site, and after it has been ascertained that no unexploded charges remain, give permission for other employees to return to work or for traffic to be allowed to proceed.

(3) The employer shall ensure that loose rocks are scaled off the faces of excavations and removed from the crest after completion of the blasting operation and before work is resumed.

Unique blasting operations

15 The employer shall ensure that a written Code of Practice to augment these regulations is developed for the use and handling of explosives in the following circumstances:

(a) in a confined space other than underground;

(b) underwater;

(c) for demolition of above-ground buildings, stacks or other structures including beaver dams;

(d) for ice control;

(e) in theatrical applications where the special effects are explosives other than fireworks;

(f) for oil or gas well control;

(g) where black powder is used; or

(h) at the request of an officer who concludes that a procedure involves an unusual use of explosives in that operation.

Misfire

16 (1) Where a charge has misfired or is suspected of having misfired, no person shall move about the danger area until the expiry of the required waiting time in subsection (2).

(2) Where a charge has misfired or is suspected of having misfired, the blaster shall,

(a) when using safety fuse, wait 30 minutes after the last charge was due to explode before entering the blasting area;

(b) when using any means of initiation other than safety fuse, wait 10 minutes after the last charge was due to explode before entering the blasting area;

(c) when using electric detonators, immediately disconnect the firing cable from the blasting machine or blasting switch and shunt the lead line; and

(d) at the end of the required waiting time, approach the misfired hole to assess the potential hazard.

(3) Where there is a misfire or a suspected misfire, no person shall use metallic equipment in the blasting area until the blaster has inspected the site and authorized the use of the equipment, in which case the following procedure shall be used:

(a) the site shall be fully illuminated;
(b) the work shall be directly and constantly supervised by a blaster; and
(c) precautions shall be taken to prevent injury from accidental explosion.

(4) The employer shall ensure that a misfire is treated at a safe and suitable time under the direction of a blaster so as to ensure the removal of all hazards from the misfire in a manner which complies with these

regulations.

(5) A blaster in consultation with a supervisor shall determine the safest and most practicable means of treating a misfire, be it by reblasting or otherwise, and shall ensure compliance with the provisions of these regulations.

(6) The employer shall, as far as practicable, ensure that the cause of the misfire is established and that corrective action is taken to prevent recurrence.

License for magazines at mines and quarries

17 (1) No magazine shall be erected, established or maintained at or in any mine or quarry except in accordance with a license issued by the Director.

(2) The application for a license for a magazine or for the renewal of such a license shall be in the form prescribed in Form 3 in Appendix "A" to these regulations.

(3) An application for a license for a magazine on the surface shall be made to the Director and shall be accompanied by plans and specifications showing the design and location of the magazine and of all buildings or structures located on the site and on the lands adjacent thereto.

(4) For each license for a magazine, the fee to be paid shall be in accordance with the fee schedule set out in Appendix "C" to these regulations.

(5) The license along with the terms of the license and the rules set out in Appendix "D" to these regulations shall be posted inside every magazine.

(6) A license for a magazine shall be in the form prescribed in Form 4 in Appendix "A" to these regulations.

(7) A magazine license is valid for one year from date of issue, unless a shorter term results from the application of the requirements of this section.

(8) A license for a magazine is valid only for the location set out in the license.

(9) Unless otherwise authorized by the Director, every site for a magazine at the surface of any mine or quarry shall be located in accordance with the Quantity Distance Table of Blasting Explosives attached as Appendix "E" to these regulations.

(10) The owner or operator of a magazine for

which a license has been issued shall not relocate or make any alteration or addition to the magazine or rebuild any part thereof or make any changes which will effect the safe distance characteristics of the magazine unless he first obtains the written approval of the Director.

(11) The terms of a license for a magazine and the rules set out in Appendix "D" shall be strictly observed by the holder of the license and any constructor, employer, employee or self-employed person at the workplace.

(12) The Director may cancel or suspend any license if the holder

(a) contravenes any of the terms of the license;
(b) completes the activities permitted by the license;
(c) carries on a practice in connection with the licensed magazine that in the opinion of the Director constitutes a hazard; or
(d) contravenes the Act or the regulations.

(13) The Director may, in writing, impose such conditions or restrictions as he deems necessary in respect of any particular magazine at a mine or quarry and he may, if satisfied that the safety of the magazine is thereby secured, waive any requirement under this section in respect of any particular magazine.

(14) Where the name in which a license or permit has been issued is changed, or the ownership or operator of the magazine changes, the person in whose name the license or permit is issued shall, within seven days of the date of the change, notify the Director in writing of the change and the name and address of the new holder.

(15) The new holder mentioned in subsection (14) shall apply for a new license within one month of the day of change.

(16) The holder of a license issued in respect of a

special activity shall return the license to the Director for cancellation where the holder

(a) completes the activity for which the license was issued;
(b) does not commence the activity within one month of the date of issuance of the license; or
(c) ceases to carry on the activity.

(17) Where for any reason a holder of a license is unable to return the license pursuant to subsection (16), the holder shall notify the Director in writing of the completion, or failure to commence or the cessation of the activity in respect of which the license was issued, and thereupon the Director shall cancel the license.

(18) Where the holder of a magazine license referred to in these regulations intends to temporarily suspend an activity for which the license was issued, the holder shall, not later than 14 days prior to the commencement of the suspension notify the Director in writing of the commencement of the suspension and the anticipated date for resumption of the activity.

Certification of blasters - Board of Examiners

18 (1) The Governor in Council may appoint a Board of Examiners, hereinafter referred to as the Board, which shall be responsible for the certification of blasters pursuant to these regulations.

(2) The Board shall consist of not more than five members, each of whom shall have experience in the use and handling of explosives.

(3) The Governor in Council shall designate one of the members of the Board to serve as Chairman.

(4) The members of the Board shall be paid their reasonable and necessary expenses and such fees as may be determined by the Governor in Council.

(5) The Director may assign such employees of the Department of Labour as are necessary to advise and assist the Board.

(6) Two members of the Board shall constitute a quorum and if a majority of participating members cannot agree on a decision, the sitting Chairman shall decide.

(7) The Board may recognize the certification of blasters in other jurisdictions as being equivalent certification for the Province of Nova Scotia.

(8) The Board shall

(a) meet at the call of the Chairman;

(b) make an annual report to the Minister showing the number of applicants examined, the number of certificates granted, the number of certificates cancelled or suspended and such other matters as may be directed by the Minister;

(c) approve a list of examination questions;

(d) prescribe the type of examination that shall be given to a candidate or endorsement of a certificate and the Board shall also determine the degree of competency required to pass any examination;

(e) value all answers made to the questions by an examined candidate or delegate such valuing to an employee of the Department of Labour who is assigned by the Director, and the Board may review at its discretion any value so ascribed to such answers with a view to the revision of the valuation if necessary;

(f) prescribe and approve any forms necessary for the purpose of the certification of blasters and any other forms necessary for the business of the Board;

(g) assess the qualifications of a candidate for examination and may in lieu of any required experience recognize any training acquired that is directly related to blasting;

(h) set the time and place for the examination of a blaster;

(i) notify the Director of the names of the successful candidates; and

(j) approve courses of study suitable for training candidates or certificate holders and for enabling them to prepare for examinations.

(9) The Director may cancel or suspend a blaster's certificate where he has reason to believe that the blaster has

(a) violated the terms of a blaster's certificate by failing to observe all limitations applicable to that certificate;

(b) obtained his blaster's certificate through misrepresentation or fraud;

(c) attempted to obtain a blaster's certificate for or on behalf of another person by misrepresentation or fraud;

(d) verified the application form of a candidate for examination without personally knowing the truth of the written statements of experience therein contained; or

(e) carried out his duties in such a manner that danger to his own health or safety or that of another person did result or could have resulted.

(10) A blaster whose blaster's certificate is cancelled or suspended by the Director pursuant to subsection (9) may appeal the decision of the Director to the Board.

(11) Upon any appeal pursuant to subsection (10), the Board may confirm, vary or reverse any decision made by the Director pursuant to subsection (9) and the decision of the Board shall be final.

(12) The Board may require a blaster whose certificate has been cancelled or suspended to complete a training course, to work under the supervision of a certified blaster, to pass an examination or to comply with such other measures as will establish the competence of the blaster, as a condition for reinstatement of a certificate.

Certification of blasters - classification and entry requirements

19 (1) There shall be five classes of blaster's certificates, and applicants for each class shall comply with the entry requirements for the class in order to qualify as a candidate for examination for a certificate, and, if awarded a certificate, the blaster shall observe all limitations applicable to that certificate.

(2) The classes, entry requirements and permitted and restricted work for each class are:

(a) Blasting trainee

(i) Entry requirements

A candidate must be 19 years of age and shall submit proof that he has completed a safety training course approved by the Board for this purpose.

(ii) Permitted and restricted work

When supervised and directed by a blaster whose certificate permits the performance of the work and who remains at the blasting area and provides close visual supervision of the certificate holder, the blasting trainee is permitted to (A) prime a charge, (B) make connections leading to a blasting machine, a blasting switch, safety fuse or a shock tube initiating system such as NONEL, (C) connect any delay or sequencing device or program the delay for the blast, and (D) fire a charge. General labour work not otherwise restricted by these regulations is also permitted.

(b) Third class

(i) Entry requirements

A candidate cannot be admitted directly into the 1st, 2nd or 3rd class levels. All candidates for these levels must first pass through the immediately subordinate level before they are eligible for the superior level. June 10, 1998.

A candidate must hold a Blasting Trainee Certificate.

A candidate must prove to the Board that he has performed 500 hours of work in blasting operations, and has substantial experience performing the following activities: (A) priming charges, (B) making connections leading to a blasting machine, a blasting switch, safety fuse or a shock tube initiating system such as NONEL, (C) connecting delay or sequencing devices or programming the sequence or delay for the blast, and (D) firing a charge.

A candidate shall have his application for certification endorsed by an employer or a blaster who has supervised his training, unless this requirement is waived by the Board.

A candidate shall submit proof that he has completed a training course approved by the Board for upgrading to this class of certificate.

(ii) Permitted and restricted work

Notwithstanding the following limitations, the certificate holder may perform any work authorized by the certificate of a blaster under whose general supervision he is working and who remains at the project.

The certificate holder may conduct a blasting operation with up to 100 kilograms (268 pounds) [220 pounds] of explosives in a single blast in the absence of supervision by a blaster holding a higher certificate, but he may not do so:

(A) within 300 metres (984

feet) of a house, residence, shop, church, school or a public building or any structure occupied in whole or in part by people, or

(B) within 60 metres (197 feet) of any other structure.

The certificate holder may not assume responsibility for the supervision and direction of a blasting trainee.

The certificate holder may not conduct the following blasting operations in the absence of supervision by a blaster who is authorized to do the work: confined spaces, underwater diving, demolition of buildings, stacks and similar structures, ice blasting, theatrical applications, or oil or gas well control.

(c) Second class

(i) Requirements

A candidate must hold a Third Class Certificate.

A candidate must prove to the Board that he has performed 1500 hours of work in blasting operations since obtaining his Third Class Certificate.

A candidate shall have his application for certification endorsed by an employer or a blaster who has supervised his training, unless this requirement is waived by the Board.

A candidate shall submit proof that he has completed a training course approved by the Board for upgrading to this class of certificate.

(ii) Permitted and restricted work

Notwithstanding the following limitations, the certificate holder may perform any work authorized by the certificate of a blaster under whose general supervision he is working and who remains at the project.

The certificate holder may blast in the absence of a blaster holding a higher certificate, but he may not do so

(A) within 50 metres (164 feet) of a house, residence, shop, church, school or a public building or any structure occupied in whole or in part by people, or

(B) in the following circumstances: confined spaces, underwater diving, demolition of buildings, stacks or similar structures, ice blasting, theatrical applications, or oil or gas well control.

(d) First class

(i) Requirements

A candidate must hold a Second Class Certificate.

A candidate must prove to the Board that he has performed 1500 hours of work in blasting operations since obtaining his Second Class Certificate, and has substantial familiarity with electric and non-electric means of initiation.

A candidate must prove to the Board that he has safely performed at least 12 blasts within 50 metres (164 feet) of houses, residences,

shops, churches, schools, public buildings or any structures occupied in whole or part by people.

A candidate shall have his application for certification endorsed by an employer or a blaster who has supervised his training, unless this requirement is waived by the Board.

A candidate shall submit proof to the Board that he has completed a training course approved by the Board for upgrading to this class of certificate.

(ii) Permitted and restricted work

The certificate holder is authorized to conduct all surface blasting operations, except in the following circumstances: confined spaces, underwater diving, demolition of buildings, stacks or similar structures, ice blasting, theatrical applications, or gas or oil well control.

Special note is made of the limitations, especially diving, demolition and theatrical. June 10, 1998.

Notwithstanding the preceding limitation, the certificate holder may perform any work authorized by the certificate of a blaster under whose general supervision he is working and who remains at the project.

(e) Special applications (Restricted certificates)

(i) Requirements

The candidate must be at least 19 years of age.

The candidate must satisfy the Board that he has substantial experience and expertise in the specific specialized blasting application which he wishes to

practice.

The candidate shall provide documented evidence of his specialized training and experience, including references in support of his application from an employer or a blaster who has supervised his work, unless this requirement is waived by the Board.

The candidate shall submit proof that he has completed a training course approved by the Board for candidates for the specific specialized certificate, if any such course has been approved for that purpose by the Board.

(ii) Permitted and restricted work

The Board shall specify the type of specialized activity which is authorized by the certificate and may impose such restrictions as it deems necessary for workplace health and safety.

(3) Where a candidate seeks a Special Application Restricted Certificate in respect of a rare and technically specialized blasting skill such as oil and gas well control, the Board may, at its discretion, substitute an inquiry into and assessment of the application for a structured examination, if it is satisfied that the candidate's competence in that speciality could best be determined in that manner.

Certification of blasters - examinations

20 (1) An applicant for certification shall apply to the Board using a form prescribed by the Board for that purpose, and shall establish to the satisfaction of the Board that he has complied with the entry requirements for that class of certificate.

(2) No person shall make or assist in making any false representation for the purpose of procuring a blaster's certificate for himself or for any other person.

(3) An application form for examination or re-examination shall be accompanied by a non-refundable examination fee of $45.00.

(4) Examination shall be

(a) held at such times, on such dates and at such places as may be designated from time to time by the Board and conducted in the presence of the Board, a Board Member, or an examiner or invigilator appointed by the Director; and

(b) by means of questions approved by the Board.

(5) Any candidate who fails to pass an examination shall not be eligible for re-examination until a period of not less than 30 days has elapsed from the examination.

(6) On the recommendation of the Board and on payment of the fees prescribed by the regulations, the Director shall issue a blaster's certificate to any person

(a) who has passed the examination prescribed by the Board;
(b) who, in the opinion of the Board, is the holder of an equivalent certificate from another jurisdiction; or
(c) who has renewed his certificate pursuant to the regulations.

Certification of blaster - renewals

21 (1) Every blaster's certificate issued by the Director prior to the first day of June 1990, shall be null and void on, from and after that date.

(2) Every blaster's certificate issued by the Director on, from or after the first day of June 1990, shall remain in force for a period of three years from the date of issuance, unless otherwise specified by the Director or unless it is suspended or cancelled pursuant to these regulations.

(3) The renewal of a certificate shall be effective from the month in which it was originally issued.

(4) A blaster seeking to renew a certificate shall

(a) file with the Board a renewal application form prescribed by the Board for this purpose;
(b) pay a non-refundable certificate renewal fee of $50.00.

(4A) The Board may

(a) make the renewal of any certificate or group of certificates conditional upon proof of completion of a Board approved Blaster's Refresher Course; or

(b) require any certified blaster, category of certified blasters, or certified blasters generally to complete a Board approved Blaster's Refresher Course.

(5) Where a certificate has expired and has not been renewed during a period of three consecutive years, the Board may require an applicant for renewal to fulfil additional requirements, which may include completion of additional training or work experience or the passing of an examination.

(6) Upon notification from the Board that an applicant has fulfilled the requirements for

obtaining a certificate, the Director shall issue the certificate to the blaster.

Effective dates and repealed enactments

22 (1) Except as provided in subsection (2), these regulations come in to force on and after the 1st day of March 1990.

(2) Notwithstanding subsection (1), Sections 17, 19, 20 and 21 and subsection (5) of Section 5 of these regulations come into force on and after the first day of June 1990.

23 (1) Regulations 43 and 44 of the Industrial Safety Regulations made by Order in Council 69-127 dated the 11th day of February 1969, as amended by Order in Council 83-191 dated the 15th day of February 1983, pursuant to Chapter 141 of the Revised Statutes of Nova Scotia 1967, the Industrial Safety Act, are repealed effective the 1st day of March 1990, and Regulations 45 and 46 of the said Industrial Safety Regulations are repealed effective the 1st day of June 1990.

(2) Regulations 102 and 103 of the Construction Safety Regulations made by Order in Council 68-104, dated the 12th day of February 1968, as amended by Order in Council 83-190, dated the 15th day of February 1983 pursuant to Chapter 52 of the Revised Statutes of Nova Scotia 1967, the Construction Safety Act, are repealed effective the 1st day of March 1990, and Regulations 104 and 105 of the said Construction Safety Regulations are repealed effective the 1st day of June 1990.

Transitio: ρrovision

24 (1) A person who, on the 31st day of May 1990, is the holder of a valid blaster's certificate issued by the Director pursuant to the Industrial Safety Regulations or the Construction Safety Regulations referred to in Section 23 is entitled to receive a blaster's certificate pursuant to these regulations, which shall be valid for a period of up to three years or such lesser period as the Board may determine.

(2) A certificate issued by the Board pursuant to subsection (1) shall be issued on the following basis, unless the expiring certificate bears special endorsements which restricted the type of activity in which the blaster could engage:

(a) the holder of an expiring First Class certificate shall receive a new First Class certificate authorizing the work described in Section 19(2)(d)(ii) of these regulations;

(b) the holder of an expiring Second Class certificate shall receive a new Second Class certificate authorizing the work described in Section 19(2)(c)(ii) of these regulations;

(c) the holder of an expiring Third Class or Fourth Class certificate shall receive a new Third Class certificate authorizing the work described in Section 19(2)(b)(ii) of these regulations.

(3) Expiring restricted certificates shall be replaced with new Special Applications (Restricted Certificates).

(4) Notwithstanding anything contained in Regulation 45(1) of the Industrial Safety Regulations and Regulation 104(1) of the Construction Safety Regulations, a person who wishes to obtain certificates prior to the 1st day of June 1990, may, if

(a) the person proves to the Board that the person has completed a training course approved by the Board for this purpose; and

(b) the person has accumulated the total experience required to progress to the applicable level of certification,

apply as a candidate for examination for a certificate under the expiring system of certification, and upon successful completion of the examination prior to the 1st of June 1990, shall be issued a certificate under the expiring regulations referred to in Section 23.

Appendix "A" to General Blasting Regulations

Form 1 - Blasting Incident Report

Blaster's name _____ Cert. # _____
Address _____ Phone #_____
Employer _____
Address _____ Phone #_____
Supervisor _____ Location of incident _____
Date _____ Time _____ Weather _____
Day shift _____ Night shift _____
Name of person completing this report _____ Phone # ____
Name and address of injured persons _____
_____
Name and address of witnesses _____
_____
Type of incident Misfire _____ Flyrock _____ Accidental Firing _____
Property Damage _____ Other _____
Type of Blasting Electric _____ Non-Electric____ Other (Specify) _____
Type of Explosive Nitro_____ Other _____
Brand Name of Explosive _____
Quantity of Explosives Involved_____
Loading and Pattern Details (from blasting log)_____
_____

Cause of Incident_____
_____

Summary of Incident_____

Form 2 - Blaster's Log

Name of Company: _____
Project: _____
Blast # _____ Date _____ Time _____

Distance from nearest residence or public or occupied structure or public road _____
Distance from nearest other structure _____

Drilling and Loading Data:

No. of Holes	Hole Diam.	Hole Depth	Burden	Spacing	lbs/kg Per Hole	Collar	Type of Explosives	Type of Detonator
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____	_____	_____	_____

Total Weight of Explosives in Blast_____ Kg _____ lbs. _____
Maximum Weight of Explosives per Delay _____ Kg _____ lbs. _____
Initiation Method: Non-Electric Electric
_____ Safety Fuse Assembly _____ E B Detonators
_____ Detonator Cord _____ Period Detonators
_____ Nonel Delay _____ Series
_____ M S Connectors _____ Sequential
Number of Detonators _____ Period Numbers _____

Resistance of each series in ohms: Series #1___ #2___ #3___ #4___ #5___
#6___ #7___ #8___ #9___ #10___

Resistance at blasting machine in ohms: Series #1___ #2___ #3___ #4___ #5___
#6___ #7___ #8___ #9___ #10__

Type of Warning Signal Used: Blasting Mats Used YES___ NO___
Warning Signs Posted YES___ NO___
Airblast Measurement YES___ NO___
Were Accesses Guarded YES___ NO___
Vibration Measurement YES___ NO___

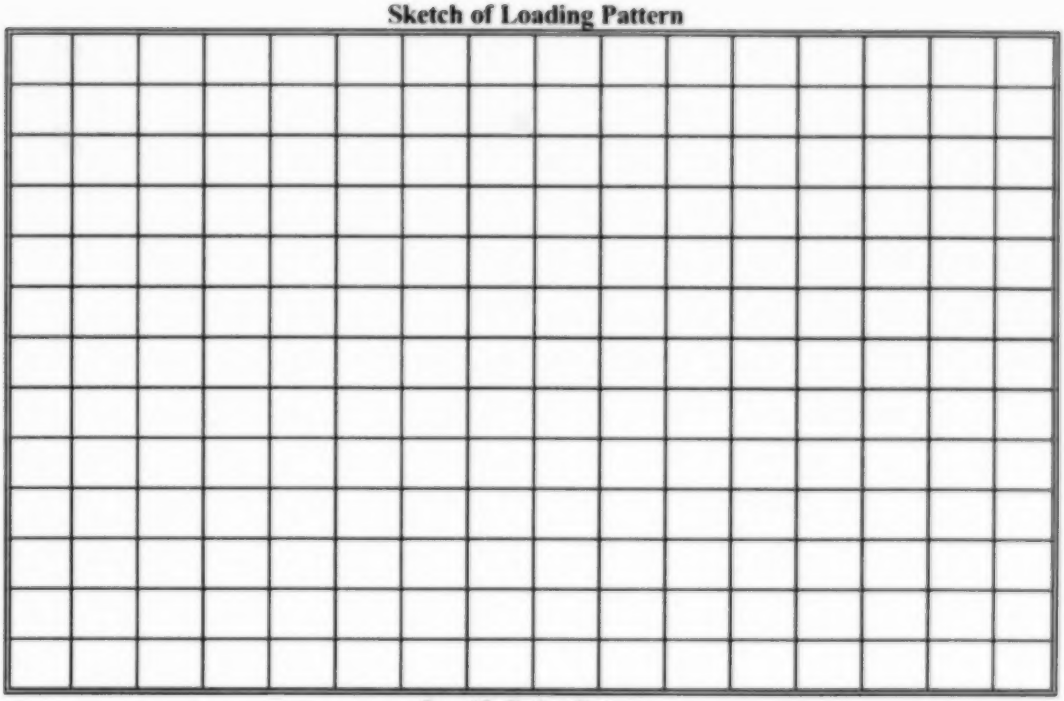
Post Blast Inspection: Misfire YES___ NO___ (If YES, report to Dept. of Labour)
Flyrock Damage YES____ NO ____
(COMPLETE SKETCH OF LOADING PATTERN BELOW)
Other Information _____

Blaster's Signature _____

Assistants _____

_____

Sketch of Loading Pattern



Specify Delay Pattern

Form 3 - Application for Magazine License

Explosives magazine _____ (Excluding Detonators)
Detonator magazine _____

Applicant's name _____
Applicant's address _____
Telephone _____ Postal Code _____

Company name _____
Address _____
Telephone _____ Postal code _____
Manager _____

Location of magazine (to be accompanied by acceptably scaled plan of magazine and area)
Province _____ County _____
Township _____ City or Town _____

Explosive or detonators to be stored - Class _____
- Division _____
- Name and description _____

New application _____ Renewal _____

Description of magazine

Mag No.	Type of Construction	L	Size W	H	Maximum Quantity	Distance Dwelling	Nearest Road	
_____	_____	___	___	___	_____	_____	_____	_____
_____	_____	___	___	___	_____	_____	_____	_____
_____	_____	___	___	___	_____	_____	_____	_____

Date _____

_____ _____
Manager's signature Applicant's signature

* Fees shall be made payable to the Minister of Finance and in accordance with the current fee schedule.

PUBLISHED BY AUTHORITY
PROVINCE OF NOVA SCOTIA
General Blasting Regulations, Occupational Health and Safety Act

Form 4

MAGAZINE LICENSE FOR STORAGE OF EXPLOSIVES This structure and its present site are approved for use as a _____

Capacity: _____

This notice is posted in accordance with the requirements of Section 17 of the General Blasting Regulations.

MINE: _____

LOCATION: _____

DATE: _____

_____ _____

(Approval Number) (Director)

DEPARTMENT OF LABOUR
Occupational Health and Safety Division

MINE _____ **LOCATION** _____

_____

Approval Number Director

_____

(Approval of)

CAPACITY_____ DATE _

This stub to be filed by Company.

MINE _____ **LOCATION** _____

_____

Approval Number Director

_____

(Approval of)

CAPACITY_____ DATE _____

This stub to be filed by Inspector.

Appendix "B" to the General Blasting Regulations

Table 1 - Minimum Distances from Commercial AM Broadcast Transmitters
(0.535 to 1.705 MHz)

Transmitter power	Minimum distance	
(Watts)	Metres	Feet
Up to 4,000	244	800
5,000	275	900
10,000	396	1,300
25,000	610	2,000
50,000	*884	2,900
100,000	1250	4,000

* Present maximum power for Canadian broadcast transmitters in this frequency range.

Table 2 - Minimum Distances from Transmitters up to 50 MHz
(excluding AM Broadcasting)

Transmitter power	Minimum distance	
(Watts)	Metres	Feet
100	244	800
500	518	1,700
1,000	762	2,500
5,000	1,677	5,500
50,000	5,183	17,000
*500,000	16,768	55,000

* Present maximum power for International Broadcast - Short Wave

Table 3 - Minimum Distances from Mobile Transmitters Including Amateur and Citizen's Band Transmission Frequency in MHz

Trans-mitter Power (Watts)	MF 1.6 - 3.4		HF 28 - 29.7		VHF 35 - 36 42 - 44 50 - 54		VHF 144 - 148 138 - 174		UHF 450 - 460	
	Metres	**Feet**	**Metres**	**Feet**	**Metres**	**Feet**	**Metres**	**Feet**	**Metres**	**Feet**
5	9	30	21	70	18	60	6	20	3	10
10	12	40	30	100	24	80	9	30	6	20
30[1]	21	69	53	174	42	138	16	52	10	32
50	27	90	70	230	55	180	21	70	12	40
60	29	96	75	248	60	196	23	76	13	44
100	37	120	98	320	79	260	30	100	18	60
180	52	170	131	430	107	350	40	130	24	80
250	61	200	149	500	125	410	49	160	27	90
350[2]	72	235	181	593	148	485	57	187	31	103
500[3]	85	280	216	710	177	580	67	220	37	120
600	91	300	238	780	195	640	73	240	42	140
1,000[4]	122	400	308	1010	250	820	95	310	55	180
1,500[5]	136	447	345	1132	280	919	106	348	61	201
10,000	378	1240	975	3200	792	2600	302	990	171	560

1 Maximum power for two-way mobile units in VHF (138 to 174 MHz) and for two-way mobile in UHF (406 to 460 MHz range).

2 Maximum power for major VHF two-way mobile and fixed station units in the 35 to 44 MHz range.

3 Maximum power for fixed units in VHF (138 to 174 MHz) and fixed stations in UHF (406 to 460 MHz range).

4 Maximum power for amateur radio mobile units.

5 Mobiles and fixed station, MF and HF.

Table 4 - Minimum Distances from Citizen's Band Class D Transmitters
(26.96 - 27.41 MHz)

Type	Minimum distance			
	Hand-held		Vehicle-mounted	
	Metres	**Feet**	**Metres**	**Feet**
Double Sideband (4 watts max)	1.5	5	20	65
Single Sideband (12 watts peak)	6.1	20	34	110

Table 5 - Minimum distances from VHF TV & FM Broadcasting Transmitters

Effective Radiated Power	VHF TV					
	Channels 2 to 6		Channels 7 to 13		FM Broadcast	
	Minimum Distance					
(Watts)	**Metres**	**Feet**	**Metres**	**Feet**	**Metres**	**Feet**
Up to1,000	305	1,000	183	600	244	800
10,000	549	1,800	305	1,000	427	1,400
*100,000	976	3,200	579	1,900	792	2,600
**325,000	1,311	4,300	762	2,500	1,036	3,400
1,000,000	1,768	5,800	1,006	3,300	1,402	4,600

*Present maximum power for Channels 2 to 6 & FM
**Present maximum power for Channels 7 to 13

Table 6 - Minimum Distances from UHF TV Transmitters

Effective Radiated Power	Minimum Distance	
(Watts)	**Metres**	**Feet**
up to 10,000	183	600
1,000,000	610	2,000
*5,000,000	915	3,000
100,000,000	1,830	6,000

*Present maximum power for Channels 14 to 83.

Table 7 - Minimum Distances from Maritime Radionavigational Radar

	Effective Radiated Power	Minimum Distance	
Type of Vessel	**(Watts)**	**Metres**	**Feet**
Small Pleasure Craft	*500	6	20
Harbour/River Craft	*5,000	15	50
Large Commercial Ships	**50,000	91	300

*3 cm (9,000 MHz) frequency.
**10 cm (3,000 MHz) frequency.

Appendix "C" to the General Blasting Regulations
Fee Schedule for Magazine Licenses

Fee to accompany initial application for each Magazine License	$55.00
Fee to accompany application for renewal of each Magazine License	$25.00

Appendix "D" to the General Blasting Regulations
Rules For Blasting Magazines

1 STORE ONLY BLASTING EXPLOSIVES, which includes detonating cords, boosters and safety fuse, in this magazine. Under no circumstance take into or store detonators in this magazine.

2 KEEP interior of magazine CLEAN and free of grit.

3 DO NOT HAVE OPEN BOXES, loose cartridges or spools in the magazine.

4 DO NOT PILE cases higher than the STACKING LINE - ensure bullet-resistant material is maintained at least 15 cm above the stacking line.

5 Use only APPROVED TOOLS and equipment around explosives and ensure that the explosives are PROTECTED from impact and rough handling.

6 KEEP STOCK FRESH - ensure oldest stock is issued first and that deteriorated, time-expired, unsafe and unwanted explosives are disposed of in a safe manner - DECONTAMINATE as required. Inspect all returns immediately to ensure that they are in a safe condition for storage.

7 Maintain adequate VENTILATION and PREVENT ingress of MOISTURE in the form of rain, snow and ice.

8 Promptly carry out any necessary REPAIRS to magazine. Before undertaking major repairs, ensure that all explosives are removed to a safe and secure location and that the magazine is decontaminated as necessary.

9 DO NOT SMOKE in or around the magazine and prevent the taking of MATCHES, lighters, flammable materials or any article liable to spontaneous ignition into the magazine.

10 If artificial light is needed, use an APPROVED FLASHLIGHT or floodlighting system.

11 CLEAR AND MAINTAIN the ground within at least 10 m of the magazine of long grass, brush, readily combustible or flammable materials and debris. Ensure empty cases are disposed of in a safe manner.

12 Ensure required WARNING signs are posted and maintained.

13 Do not allow SHOOTING or firearms near the magazine.

14 Maintain at all times an accurate INVENTORY of the contents of the magazine and ensure that all cases are MARKED with your magazine licence or permit number.

15 Issue blasting explosives only to authorized persons and obtain a signature.

16 Before leaving ensure the magazine is securely LOCKED - ensure only AUTHORIZED PERSONS have access to the keys.

17 On the approach of a THUNDERSTORM, CLOSE the magazine and EVACUATE all persons from the area for the duration of the storm.

18 Do not load any VEHICLE that does not conform to the Transportation of Dangerous Goods Regulations.

19 REPORT any fire, accident, break-in, attempted break-in, theft or other incident.

Rules for Detonator Magazines

1 STORE ONLY DETONATORS, which includes detonating relays and other detonators with safety fuse, detonating cords, or shock tubes, in this magazine. Under no circumstance take into or store blasting or other explosives or non-explosive accessories in this magazine.

2 DO NOT HAVE LOOSE DETONATORS in the magazine.

3 KEEP interior of the magazine CLEAN and TIDY with the various types of detonators readily accessible for selection, issue and inventory.

4 DO NOT SMOKE in or around the magazine and prevent the taking of MATCHES, lighters, flammable materials or any article liable to spontaneous ignition into the magazine.

5 If artificial light is needed, use an APPROVED FLASHLIGHT or floodlighting system.

6 Prevent ingress of MOISTURE in the form of rain, snow and ice.

7 CLEAR AND MAINTAIN the ground within at least 10 m of the magazine of long grass, brush, readily combustible or flammable materials and debris. Ensure used cases and cartons are empty and disposed of in a safe manner.

8 Promptly carry out any necessary REPAIRS to the magazine. Before undertaking major repairs, ensure that all explosives are removed to a safe and secure location and that the magazine is decontaminated as necessary.

9 Ensure required WARNING signs are posted and maintained.

10 Do not allow SHOOTING or firearms near the magazine.

11 Maintain at all times an accurate INVENTORY of the contents of the magazine and ensure that all cases and internal cartons or open cases are marked with your magazine license or permit number.

12 Issue detonators only to authorized persons and obtain a signature.

13 Before leaving ensure the magazine is securely LOCKED - ensure only AUTHORIZED PERSONS have access to the keys.

14 On the approach of a THUNDERSTORM, CLOSE the magazine and EVACUATE all persons from the area for the duration of the storm.

15 Do not load any VEHICLE that does not conform to the Transportation of Dangerous Goods Regulations.

16 REPORT any fire, accident, break-in, attempted break-in, theft or other incident.

Appendix "E" to the General Blasting Regulations
Quantity-Distance Table for Blasting Explosives

Weight of blasting explosives and related explosive accessories	**Distance from** a) Highway, street and other road accessible to the public b) Railway c) Aerodrome & airfield d) Bank of navigable waterway including canals and recreational waters e) Park, playground, sportsfield and other open places of resort f) Work area within a a project	**Distance from** a) Dwelling, living quarters b) Store, office and like buildings c) School, college or university d) Hospital & rest home e) Church and chapel f) Theatre, auditorium & other assembly buildings g) Factory, workshop, service station & garage h) Warehouse or storage area for flammable substances in bulk	Distance between traversed* magazine
1	**2**	**3**	**4**
Kilograms	**Metres**	**Metres**	**Metres**
50	23	2	39
100	23	32	11
200	26	52	14
250	30	60	15
300	34	68	16
400	41	82	18
500	47	94	19
600	53	105	20
800	65	130	23
1 000	75	150	24
2 000	120	240	30
4 000	175	350	38
5 000	190	380	41
6 000	200	400	44
7 000	210	420	46
10 000	240	480	52
20 000	300	600	66
25 000	320	640	70
30 000	340	680	74
40 000	380	760	82
50 000	410	820	88

100 000	525	1 050	110
150 000	588	1 175	128

* Untraversed magazines (exclusive of detonator magazines) must be separated by the distance given in Column 2, otherwise the total weight of explosives to be stored is added together for calculation of quantity-distances.

PUBLISHED BY AUTHORITY
PROVINCE OF NOVA SCOTIA
General Blasting Regulations, Occupational Health and Safety Act

Form 4

MAGAZINE LICENSE FOR STORAGE OF EXPLOSIVES This structure and its present site are approved for use as a _____

Capacity: _____

This notice is posted in accordance with the requirements of Section 17 of the General Blasting Regulations.

MINE: _____

LOCATION: _____

DATE: _____

_____ _____

(Approval Number) (Director)

DEPARTMENT OF LABOUR
Occupational Health and Safety Division

MINE _____ **LOCATION** _____

_____

Approval Number Director

_____

(Approval of)

CAPACITY_____ DATE _

This stub to be filed by Company.

MINE _____ **LOCATION** _____

_____

Approval Number Director

_____

(Approval of)

CAPACITY_____ DATE _____

This stub to be filed by Inspector.